



MAP Talk Webinar

October 29, 2019

LOCAL GOVERNANCE, CIVIL DISCOURSE, AND SOCIAL MEDIA

Charting Incivility From and
Directed at Tucson-Area
Elected Officials

LEARN MORE





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Webinar Details

- ▶ **The MAP Talk will be recorded**
 - ▶ See the MAP Dashboard website for recordings
- ▶ **Conference mode**
 - ▶ Everyone muted except presenter
- ▶ **How to ask a question**
 - ▶ Email anytime to
 - ▶ jpullen@eller.arizona.edu



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MAKING ACTION POSSIBLE
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New International Recognition!

**MAP DASHBOARD WINS
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2018



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The complex block is a promotional graphic for an award. It features a grey background with a subtle geometric pattern. At the top, the text 'MAP DASHBOARD WINS INTERNATIONAL AWARD' is written in large, white, bold, sans-serif capital letters. Below this, on the left, is a gold medal with a laurel wreath border and the year '2018' in the center. To the right of the medal is the 'cic' logo in red lowercase letters, followed by a graphic of a grid of dots in yellow and green. Further right is the text 'Community Indicators Consortium' in a dark red, serif font. At the bottom right, there is a blue button with the text 'Learn More' in white, followed by a white right-pointing arrow.

Arizona Daily Star



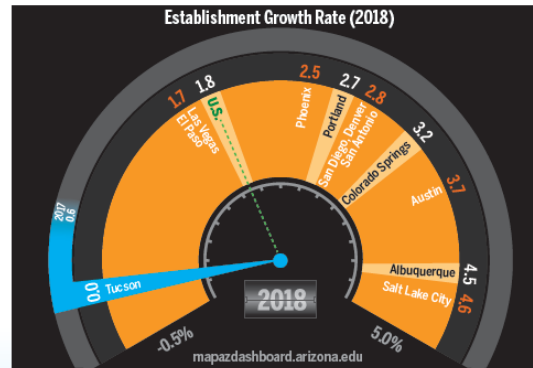
Tucson economy: MAP Dashboard

Monthly Stats	Change Year/Year
Non-farm jobs 391,700 (September 2019)	+1.9% ▲
Unemployment rate 4.1% (September 2019)	-0.4% pts. ▼
Median home price \$239,575 (September 2019)	+11.4% ▲
Housing permits* 261 (September 2019)	+4.8% ▲

*Single-family permits, based on U.S. Census Bureau data

Tucson-area business growth still flat despite improvement since downturn

In 2018, the Tucson Metropolitan Statistical Area generated no growth in the number of establishments employing workers. This ranked Tucson 12th among peer western MSAs. Tucson's growth in business establishments was down from 0.6% in 2017. Despite Tucson's slow or non-existent growth over the past few years in business establishments this was a considerable improvement over the substantial decline during the Great Recession. Business growth reflects the change in the total number of establishments. Regions with strong business growth may generate correspondingly strong gains in jobs and income that contribute to an increased standard of living for local residents.



A project of the Economic and Business Research Center at the University of Arizona Eller College of Management

Real-time economic data is at your fingertips with the Arizona's Economy smartphone app. Available free on iTunes and Google Play.

About the MAP Dashboard
The MAP (Making Action Possible for Southern Arizona) Dashboard is produced by the UA Economic and Business Research Center in partnership with the Community Foundation for Southern Arizona, the Pima Association of Governments, the Southern Arizona Leadership Council, and Sun Corridor Inc. A portion is published monthly in the Arizona Daily Star. To view more data, go to mapazdashboard.arizona.edu

10/27/19

Tucson's health: MAP Dashboard

In 2016, those living in the Tucson MSA reported 3.9 poor mental health days each month. This tied Tucson for eighth place with Portland among 12 peer western metros. Residents of Austin and Denver reported the least number of poor mental health days at 3.3, and Las Vegas residents reported the most at 4.3. Behavioral health is a key component of a person's well-being and can affect an individual's health, longevity and productivity. To learn more about mental health and other behavioral health conditions in Southern Arizona visit the MAP Dashboard.

Number of poor mental health days per month (2016)



A project of the Economic and Business Research Center at the University of Arizona Eller College of Management

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12/3/18

CHIARA BAUTISTA / ARIZONA DAILY STAR





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Local Governance, Civil Discourse, and Social Media: Charting Incivility From and Directed at Tucson-Area Elected Officials

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Project Overview

- Impetus
 - Civility has been an increasing concern—particularly on social media
- Objectives
 - Examine incivility from and directed at Tucson-area elected officials on Twitter during 2018-2019
- Project description
 - Background
 - Data acquisition & analysis
 - Results
 - Recommendations



Background

- Civility is a central element of an effective democracy
 - Americans are increasingly concerned with incivility
 - 93% of the U.S. public felt that the nation had a “civility problem”
 - Source: <https://www.webershandwick.com/wpcontent/uploads/2018/06/Civility-in-America-VII-FINAL.pdf>
 - 1 in 5 comments posted to the *Arizona Daily Star*’s online discussion forum over a three-week period during 2011 contained incivility
 - 14% of comments contained name-calling
 - Source: <https://onlinelibrary.wiley.com/doi/10.1111/jcom.12104>
- **Goal:** Examine civility by and directed at local elected officials on social media (i.e., Twitter)



Defining Incivility

- “Features of discussion that convey an unnecessarily disrespectful tone toward the discussion forum, its participants, or its topics”
- Name-calling:
 - *Mean-spirited/disparaging words directed at another person or group of people, including derogatory nicknames. Name-calling can go beyond the words used and be implied in stylistic features. Name-calling is directed at another symbol producing entity (person/group/organization).*



Research Design

1. Identify Twitter accounts and collect tweets from elected officials representing the Tucson area
- ↓
2. Train a machine learning classifier to identify tweets containing incivility
- ↓
3. Apply the classifier to the complete sample of tweets
- ↓
4. Examine trends in incivility to/from Tucson-area elected officials on Twitter



Data Acquisition

- Twitter accounts for 33 elected officials representing the Tucson area during 2018:
 - US Senate ($n = 3$)
 - US House of Representatives ($n = 3$)
 - Arizona State Senate ($n = 5$)
 - Arizona State House of Representatives ($n = 11$)
 - Mayor & City Councils ($n = 11$)
 - Tucson, Oro Valley, Sahuarita
 - No officials from Marana or South Tucson used Twitter

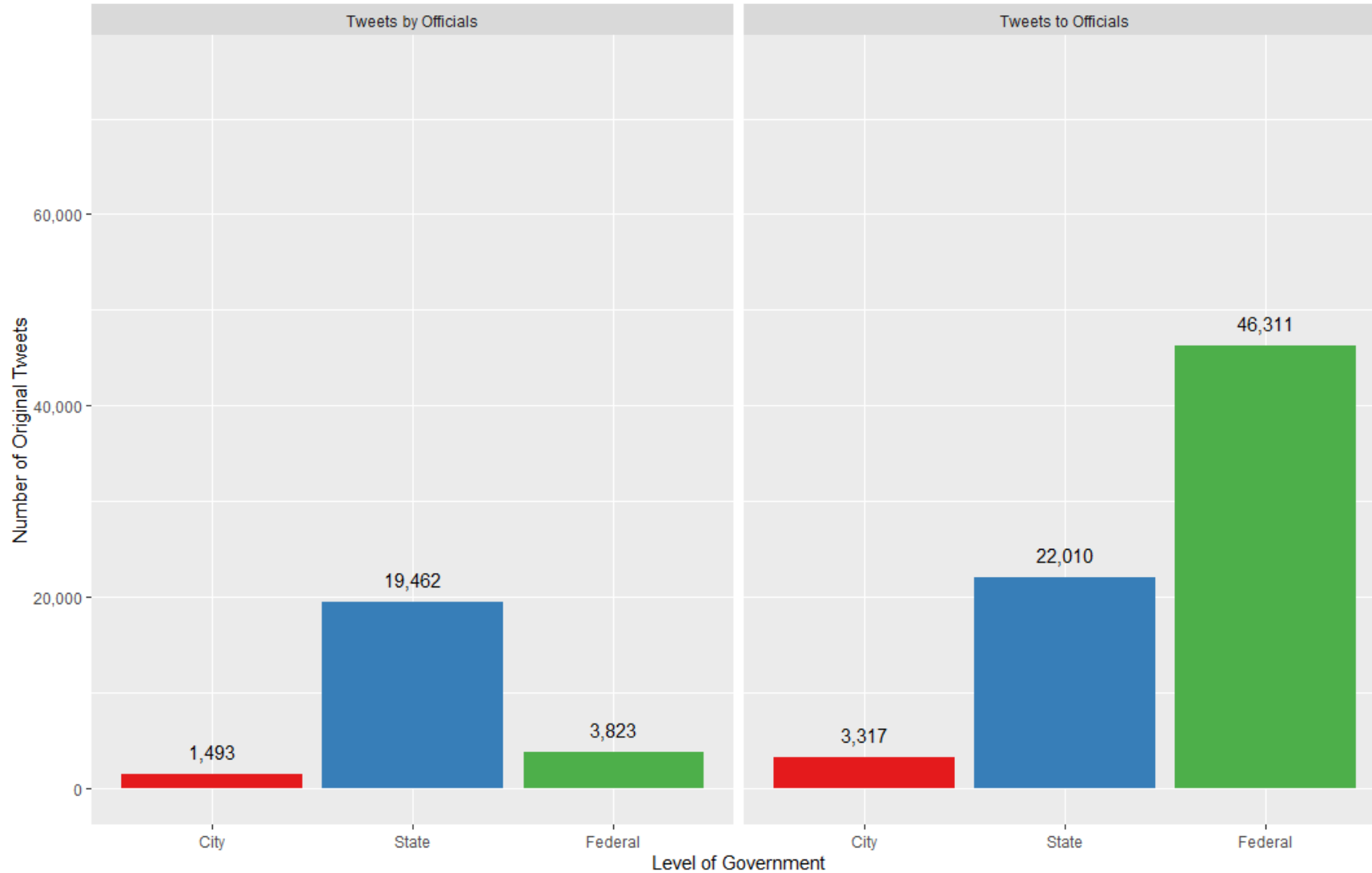


Data Acquisition

- Twitter's application programming interface (API) was used to collect tweets to/from each elected official
 - Collection occurred during April and June (2019)
 - Collection spans Jan. 1, 2018 – June 8, 2019
- Total original tweets *authored by* elected officials: 24,778
- Total original tweets *directed at* elected officials: 71,638
 - @elected_official....
- Note: re-tweets were excluded from original tweet counts

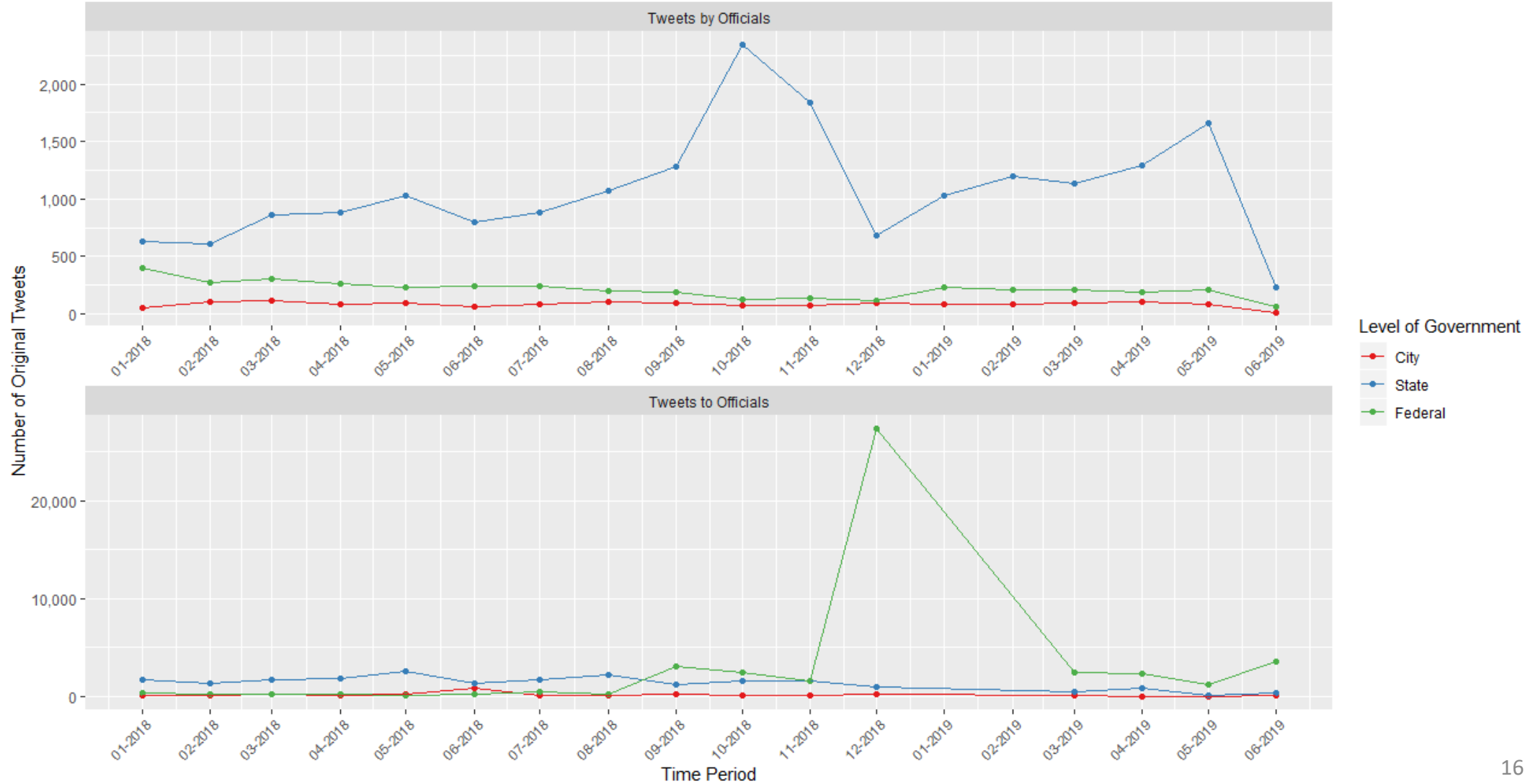


Tweets Authored by and Directed at Tucson Area Elected Officials





Tweets Authored by and Directed at Tucson Area Elected Officials Over Time





Data Annotation

- 96,416 total tweets collected
- Random sample of 3,800 tweets annotated by human coders for the presence of name-calling
 - Coders received 20 hours of training
 - Intercoder agreement established on 400 tweets
 - Krippendorff's alpha = .86
- Name-calling
 - *Mean-spirited/disparaging words directed at another person or group of people, including derogatory nicknames. Name-calling can go beyond the words used and be implied in stylistic features. Name-calling is directed at another symbol producing entity (person/group/organization).*



Classifier Development

- Machine learning classifier trained on annotated data to detect name-calling
 - 3,800 annotated tweets were split into a training and test set
 - Training set used to refine the classification algorithm
 - Test set used to demonstrate its effectiveness
- Bidirectional encoder representations from transformers (BERT)
 - State-of-the-art neural network classifier
 - 76% precision (how often the classifier's prediction of incivility was also judged as uncivil by humans)
 - 76% recall (how many of the human-judged incivilities the classifier was able to find)



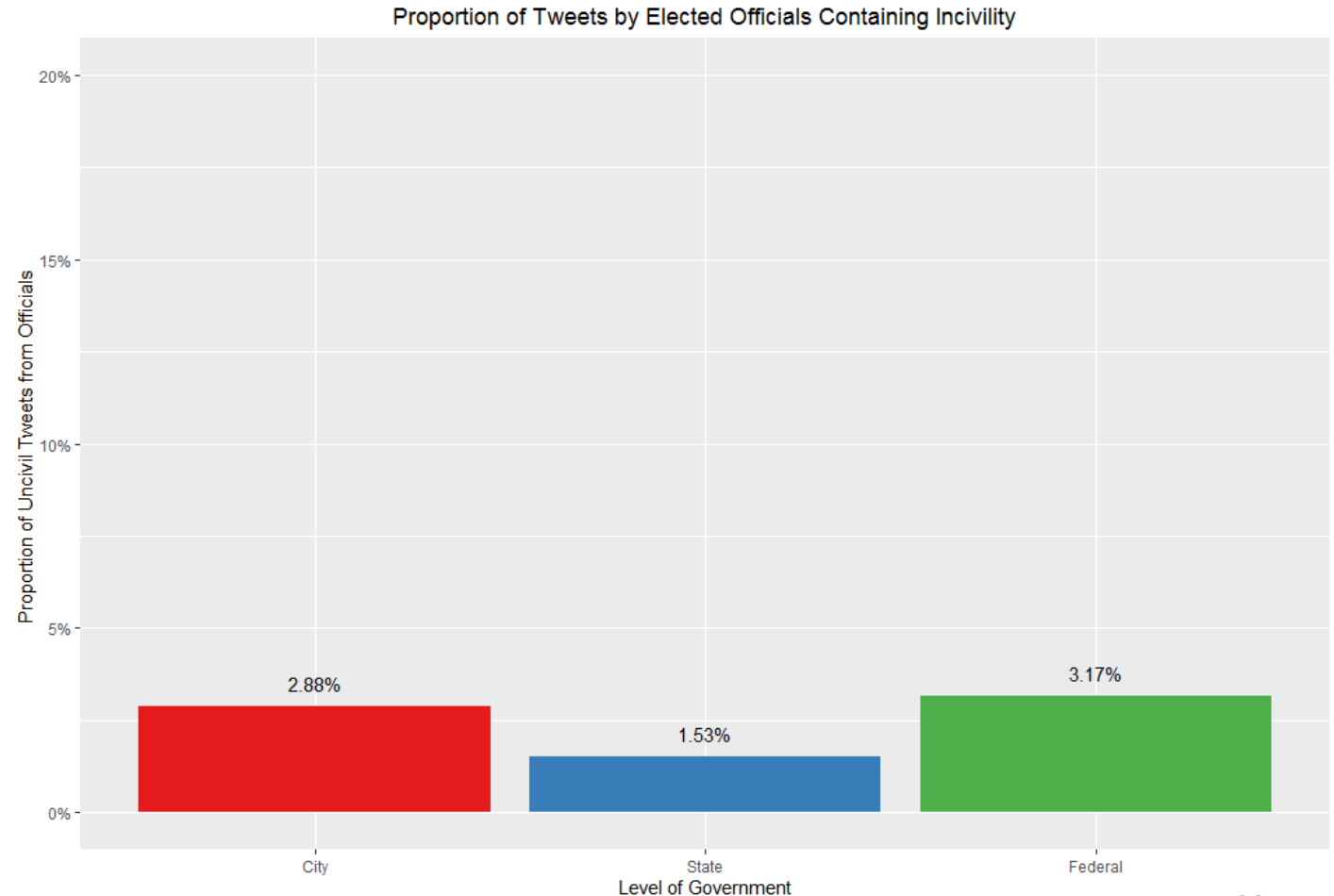
Examples of Incivility Identified by the Classifier

- Obvious:
 - Nobody cares about this Crybaby traitor or his family!
 - I don't care about [elected official]. He is an idiot.
 - [elected official] is a pathological liar.
 - [elected official] You sir are a HYPOCRITE
 - [elected official] Fck you a**hole!!!!
- More subtle:
 - I think you're a closet Democrat
 - And you continue to be complicit
 - [elected official] You are irrelevant
 - [elected official] you are less relevant than ever
 - Nobody wants to hear an uninformed, appointed senator that has never had a town hall!!!



Incivility by Tucson-Area Elected Officials

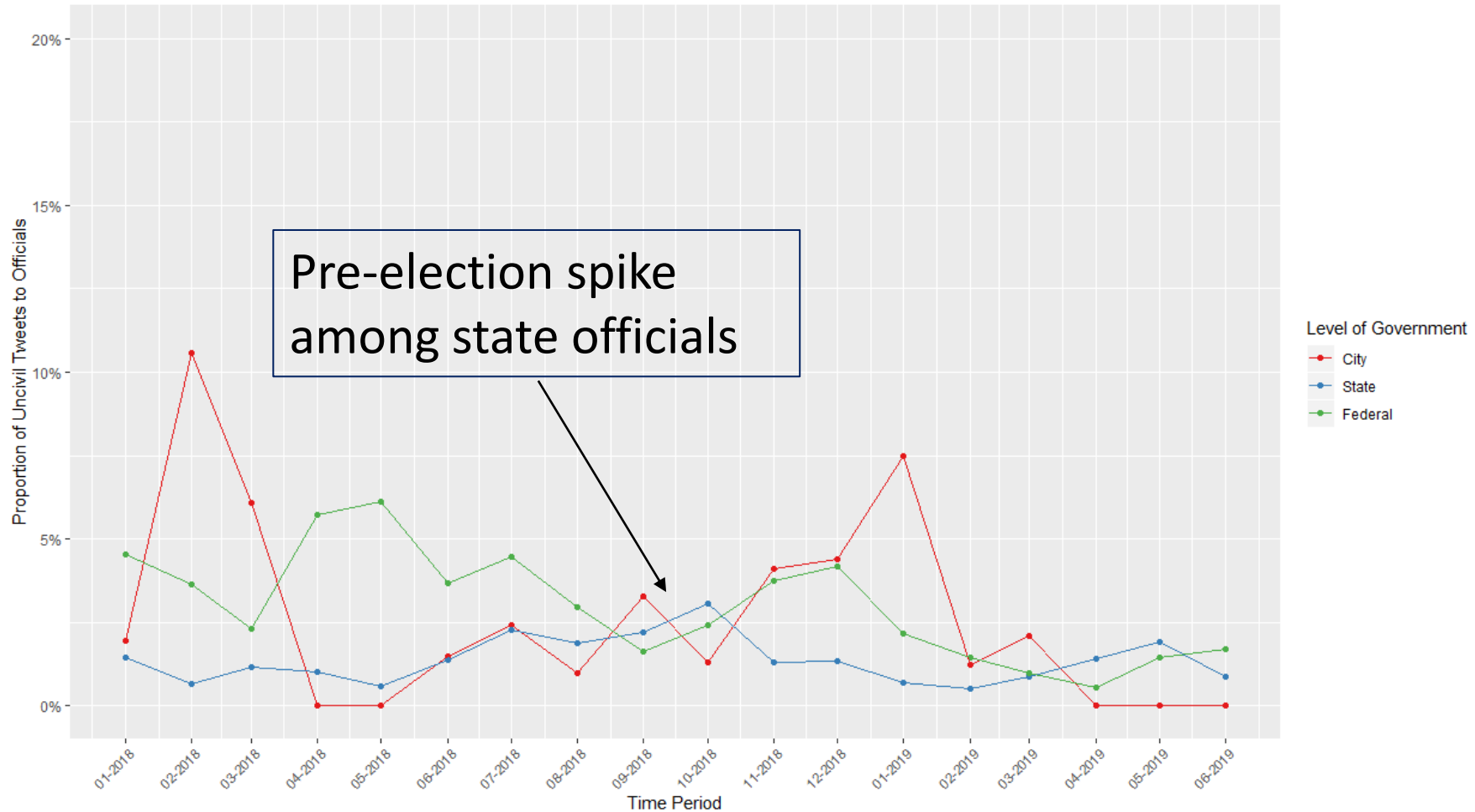
- Less than 5% of all tweets by elected officials contained incivility
- Raw number of uncivil tweets:
 - City: ~40
 - State: ~300
 - Federal: ~120
- Overall: ~450 of almost 25,000 tweets contained incivility





Incivility in Tweets by Elected Officials Over Time

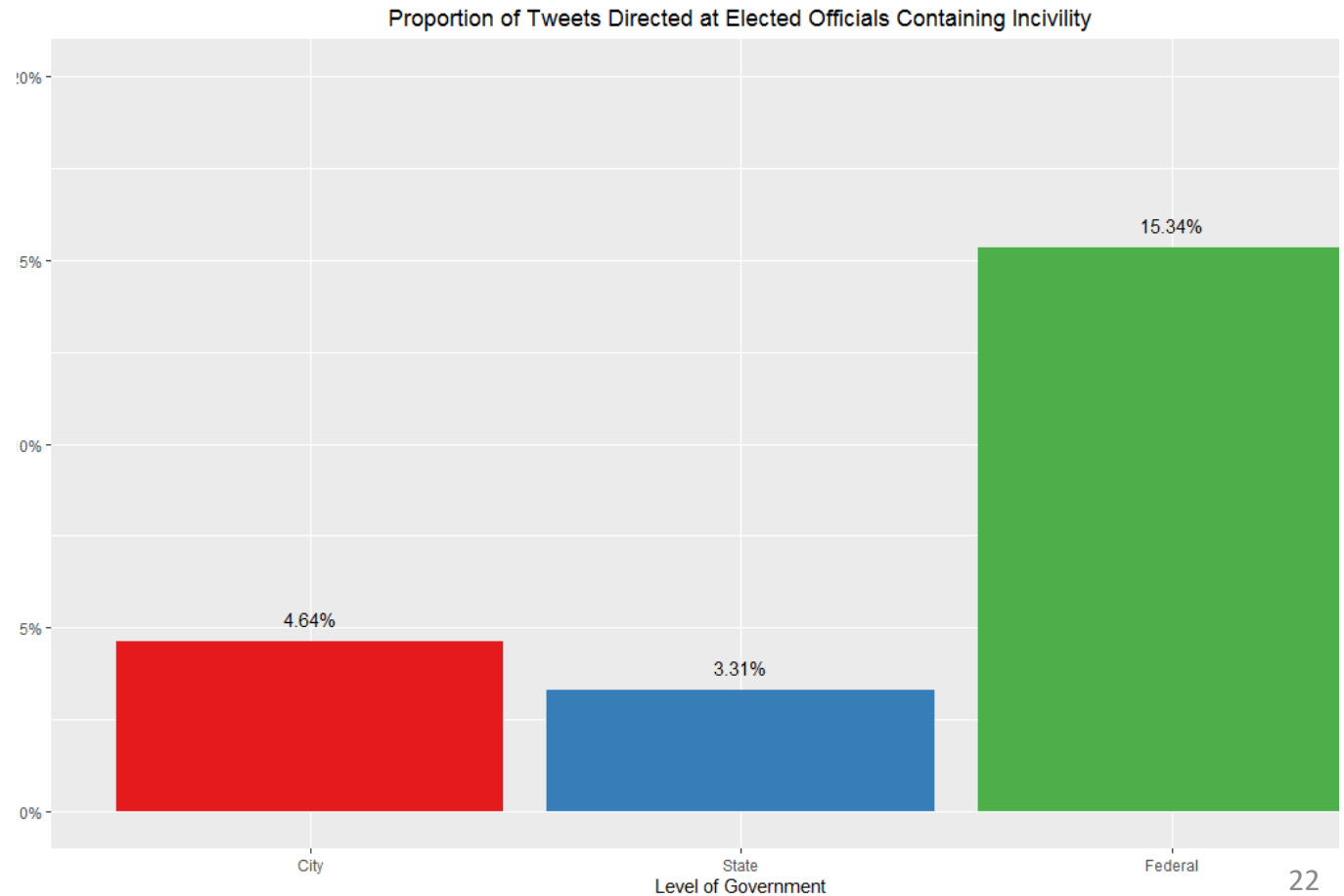
Incivility in Tweets By Tucson Area Elected Officials Over Time





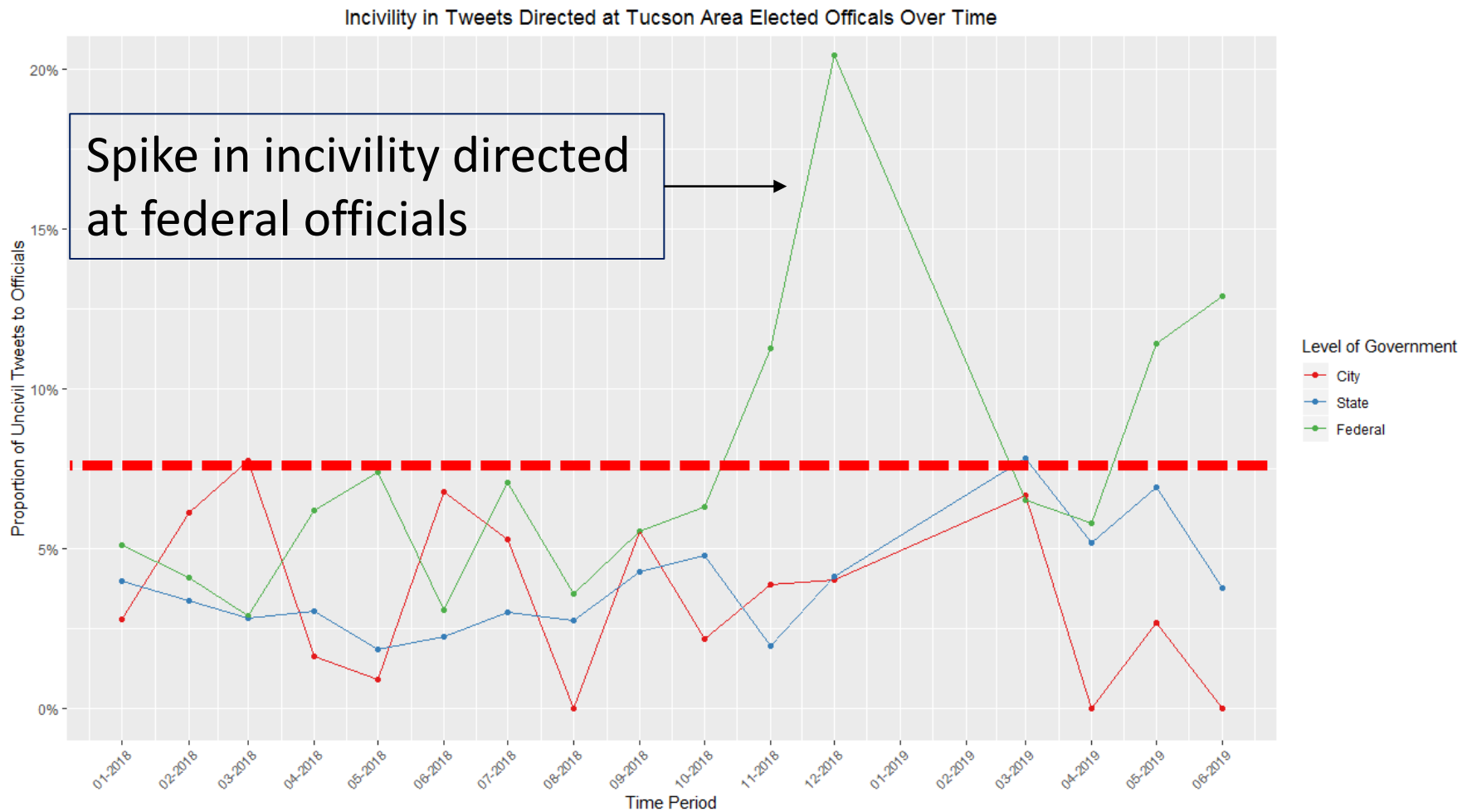
Incivility Directed at Tucson-Area Officials

- Less than 5% of all tweets directed at city and state officials contained incivility
- 15% of tweets directed to federal officials contained incivility
- Raw number of uncivil tweets:
 - City: ~150
 - State: ~725
 - Federal: ~7,000





Incivility in Tweets Directed at Officials Over Time





Summary of Key Trends

- General hesitance to use incivility by elected officials
 - State level officials (1.5%) used incivility least and federal officials used incivility most (3%)
- Incivility directed at public officials varied dramatically by level of representation
 - Incivility directed at federal officials (15%) was more than 3X greater than incivility directed at city and state officials (<5%)
- Benchmark
 - 14% of over 6K posts to *Arizona Daily Star* contained name-calling
 - Source: <https://onlinelibrary.wiley.com/doi/10.1111/jcom.12104>



Recommendations

1. Granting that overall incivility in this context is relatively low, federal officials could nonetheless learn from the social media behavior of state officials
 - State officials were able to pursue similar objectives with only half as much incivility and presumably no loss of useful information
2. Citizens using Twitter for political exchanges should be aware that they may engage in more name-calling with federal officials than they would otherwise
 - If people are not comfortable employing incivility when addressing a mayor or city councilperson, should they feel the same discomfort addressing a U.S. Senator that way?



Questions?

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